

Application No. 10/802,473

Amendments to the claims:

1-17. (Cancelled)

18. (Original) A laser printer comprising:

a laser source for producing a laser beam,

a torsion oscillator comprising:

a plate member having an upper surface, a lower surface, and a rotational axis and being located in
5 the path of the laser beam,

a frame disposed in a spaced apart relation to the plate member,

a torsion spring mount for mounting the plate member on the frame and for yieldably resisting
oscillation of the plate member with a torsion spring force,

a reflective surface disposed on a surface of the plate member for reflecting the laser beam,

10 at least one magnet disposed on the plate, and

at least one coil located on the frame for producing an oscillation force on the at least one magnet
when an alternating electric current is applied to the at least one coil to thereby oscillate the
reflective surface about the rotational axis to a rotational angle of oscillation at an oscillation
frequency to scan the laser beam through a scanning pattern in at least first and second
15 directions at the oscillation frequency,a imaging surface disposed in the path of the scanning pattern so that the laser beam scans across the
imaging surface,

a drive mechanism for moving the imaging surface at an imaging surface speed, and

a control circuit for controlling the electric current provided to the at least one coil to control the
20 oscillator.19. (Currently Amended) The laser printer of claim 18 wherein the plate member comprises a
non-rectangular configuration selected from the group consisting of oval, elliptical, racetrack or
circular.

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20. (Currently Amended) The laser printer of claim 18 wherein the reflective surface comprises a non-rectangular configuration selected from the group consisting of oval, elliptical or racetrack.
21. (Original) The laser printer of claim 18 wherein the amount of current applied to the at least one coil is sufficient to oscillate the reflective surface to a predetermined rotational angle with respect to the rotational axis.
22. (Original) The laser printer of claim 18 wherein the oscillation frequency is about 2.6 kHz.
23. (Original) The laser printer of claim 18 wherein the rotational angle of oscillation is about plus and minus fifteen degrees.
24. (Original) The laser printer of claim 18 wherein the rotational angle of oscillation is greater than plus and minus fifteen degrees.
25. (Original) The laser printer of claim 18 wherein the magnets are mounted on one surface of the plate member and the reflective surface is formed on the other surface of the plate member.
26. (Original) The laser printer of claim 18 wherein the magnets are mounted on the longitudinal axis of the torsion spring mount.
27. (Previously Presented) The laser printer of Claim 18 wherein the laser beam is dimensioned and disposed to overfill the reflective surface and produce a reflected laser beam whose cross sectional dimension is defined by the size of the reflective surface.
28. (New) The laser printer of Claim 18 wherein the plate member, frame and torsion spring mount are formed from a single silicon wafer.

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29. (New) The laser printer of Claim 18 wherein the plate member is silicon.
30. (New) The laser printer of Claim 18 wherein the frame is silicon.
31. (New) The laser printer of Claim 18 wherein the torsion spring is silicon.
32. (New) The laser printer of Claim 18 wherein the printer imaging surface is a printer drum.
33. (New) A laser printer comprising:
a laser source for producing a laser beam,
a silicon torsion oscillator comprising:
a plate member having an upper surface, a lower surface, and a rotational axis and being located in
5 the path of the laser beam,
a frame disposed in a spaced apart relation to the plate member,
a silicon torsion spring mount for mounting the plate member on the frame and for yieldably
resisting oscillation of the plate member with a silicon torsion spring force,
a reflective surface disposed on a surface of the plate member for reflecting the laser beam,
10 at least one magnet disposed on the plate, and
at least one coil located on the frame for producing an oscillation force on the at least one magnet
when an alternating electric current is applied to the at least one coil to thereby oscillate the
reflective surface about the rotational axis to a rotational angle of oscillation at an oscillation
frequency to scan the laser beam through a scanning pattern in at least first and second
15 directions at the oscillation frequency,
a printer imaging surface disposed in the path of the scanning pattern so that the laser beam scans
across the imaging surface,
a drive mechanism for moving the printer imaging surface at an imaging surface speed, and
a control circuit for controlling the electric current provided to the at least one coil to control the
20 oscillator.

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34. (New) A laser printer comprising:

a laser source for producing a laser beam,

a silicon torsion oscillator comprising:

a plate member having an upper surface, a lower surface, and a rotational axis and being located in

5 the path of the laser beam,

a frame disposed in a spaced apart relation to the plate member,

a silicon torsion spring mount for mounting the plate member on the frame and for yieldably
resisting oscillation of the plate member with a silicon torsion spring force,

a reflective surface disposed on a surface of the plate member for reflecting the laser beam,

10 at least one magnet disposed on the plate, and

at least one coil located on the frame for producing an oscillation force on the at least one magnet
when an alternating electric current is applied to the at least one coil to thereby oscillate the
reflective surface about the rotational axis to a rotational angle of oscillation at an oscillation
frequency to scan the laser beam through a scanning pattern in at least first and second
15 directions at the oscillation frequency,

a printer drum disposed in the path of the scanning pattern so that the laser beam scans across the
printer drum,

a drive mechanism for moving the printer imaging surface at a printer drum speed, and

a control circuit for controlling the electric current provided to the at least one coil to control the
20 oscillator.